

DESCRIPTIONS OF THIRTY-ONE NEW SPECIES OF HYMENOPTERA.

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The following paper, which is a contribution from the Branch of Forest Insects, Bureau of Entomology, contains the description of 31 new Hymenoptera, most of which have been reared as parasites of forest insects. The types of all the new species are in the United States National Museum collection.

Suborder Chalastogastra.

Superfamily TENTHREDINOIDEA.

TENTHREDELLA BIRMENSIS, new name.

Tenthredo gribodoi KONOW, Ent. Nachr., vol. 24, 1898, p. 89, not *Tenthredo gribodoi* Costa, Rend. Acc. Napoli (2), vol. 3, 1894, p. 87.

MACROPHYA CASTANEA, new species.

This species is related to *cassandra* Kirby, but may be separated from that species by the more coarsely punctured head and thorax and by the pale hind tarsi. It also resembles *dejectus* Norton, but differs from Norton's species in the black clypeus and in having the anterior margin of the clypeus subsquarely emarginate with obtuse lobes. (The clypeus of *dejectus* is subsquarely emarginate with triangularly shaped pointed lobes.)

Male.—Length 8.5 mm. Labrum well exerted, apex subtruncate; clypeus shining with a few large, separate punctures, anterior margin deeply, subsquarely emarginate, the lobes at base half as broad as the emargination, their apices broadly rounded; supraclypeal area flat: supraclypeal foveae deep, punctiform; middle fovea, ocellar basin and the antennal furrows obsolete; head with large, close, sometimes confluent punctures which are more widely separated on the vertex and posterior orbits; posterior orbits with a sharp carina to the top of the eye; postocellar furrow poorly defined but complete;

postocellar area bounded laterally by line-like furrows, one and three-fourths times as wide as long; postocellar line one-third shorter than the ocellocular line; antennae rather long, tapering apically, third joint one-fourth longer than the fourth, the apical three joints sharply differentiated; scutum and prescutum shining but with large, distinct punctures which are very close along the sutures; scutellum with large punctures which are close and dense posteriorly; scutellar appendage punctured like the posterior part of the scutellum, with a median carina; mespeisternum coarsely punctured, confluent so dorsally; stigma regularly rounded below, truncate apically; transverse radius strongly curved before it joins the radius at the apical third of the third cubital; third cubital cell one-fourth shorter than the second on both radius and cubitus, one-fifth wider apically and slightly longer on the cubitus than on the radius, receiving the second recurrent vein at the basal fifth; abdomen shining, almost impunctate; hypopygidium subtruncate. Black; two spots on the clypeus, labrum, mandibles except apices, palpi, anterior femora beneath, the four anterior tibiae and tarsi beneath, trochanters, and the posterior tarsi *yellowish white*; wings uniformly hyaline, venation dark brown: the apex of the stigma paler.

Type-locality.—Vienna, Virginia. Described from one male recorded under Bureau of Entomology No. Hopk. U. S. 10161. This specimen was reared from a larva which was collected on *Castanea dentata* by R. A. Cushman; adult emerged May 29, 1913. The larva is an edge eater; in the last feeding stage it is yellow with black lateral spots; it is about 20 mm. long; in the prepupal condition it is pinkish with black stigmal spots and a faint, small blackish subdorsal spot on each segment; head pale.

Type.—Cat. No. 19047, U.S.N.M.

EMPHYTUS MELLIPES, variety ALBOLABRIS, new variety.

Female.—Length, 9 mm. This variety is very like *mellipes mellipes*, but may be separated by the white labrum.

Described from one female collected at Departure Bay, Vancouver Island, July 5, 1913, by E. M. Walker.

Type.—Cat. No. 19212, U.S.N.M.

ERIOCAMPOIDES CASTANAEAE, new species.

This species is related to *lunata* MacGillivray but differs from the original description of that species in the following characters: The hind tarsi are mostly black; the third antennal joint is not "considerably more than one and a half times as long as the fourth"; the third transverse cubitus is not about twice the length of the second transverse cubitus and is not bowed; the second joint of the hind tarsus is much longer than the third; abdomen is deep black; the

sheath is parallel-sided, not convex above and below, gradually rounding to a point at apex.

Female.—Length, 4.5 mm. Anterior margin of the clypeus broadly, arcuately emarginate, the surface shining, very sparsely punctured; the supraclypeal area flat, rectangular in outline; middle fovea transverse, deep; frontal fovea deep, punctiform, above the middle fovea; frontal crest well developed, broken in the middle; antennal foveae poorly defined; ocellar basin U-shaped, opened below; a very faint, shallow depression in front of the anterior ocellus; postocellar line subequal with the ocellocular line; postocellar furrow wanting; postocellar area subconvex, about two and one-half times as wide as the cephalcaudad length; third antennal joint one and one-third times as long as the fourth; thorax shining; stigma slightly tapering to the transverse radius, then sharply oblique to the apex; the second and third transverse cubiti subequal in length; the transverse radius in the apical third of the cell; second joint of the hind tarsi much longer than the third, almost as long as the third and fourth combined; inner tooth of the claw shorter than the outer; sheath approximately parallel-sided; the lower side gradually rounds to the acute upper apex. Black; the four anterior legs below the tips of the femora, the basal half of the posterior tibiae, and the basal third of the posterior basitarsus white; wings hyaline, faintly dusky; venation black.

Type-locality.—East Falls Church, Virginia. Described from two females recorded under Bureau of Entomology No. Hopk. U. S. 11307a, material collected as larvae July 13, 1913, by William Middleton. Adults emerging August 5 (type) and 13, 1913.

Type.—Cat. No. 15486, U.S.N.M.

The larva of this species is a typical greenish-white *Eriocampoides* larva, feeding on the ventral surface of the leaves of *Castanea dentata*. The head is pale ferruginous.

Genus PERICLISTA Konow.

Syn.: *Isodyctium* ASHMEAD.

Ashmead separated his genus *Isodyctium* from *Periclista* Konow by the sessile anal cell in the hind wings. This character is not of specific importance, it is subject to both individual and specific variation. In *diluta* Cresson there is a variation in seven female specimens from the same rearing of larvae, from sessile to distinctly petiolate. In some species (*lineolata*) the petiole is long; in others (*caryicola*) it is short, while in still others it is of intermediate length. From the standpoint of the genotypes no difference could be found except the relative length of the petiole of the hind anal cell. The genus *Isodyctium* is therefore considered as synonymous with *Periclista*.

PERICLISTA DILUTA (Cresson).

Sclandria (*Monophadnus*) *diluta* CRESSON, Trans. Amer. Ent. Soc., vol 8, 1880, p. 12.

Isodyctium subgregarium DYAR, Journ. New York Ent. Soc., vol. 6. 1898, p. 134.

A comparison of the type of *subgregarium* Dyar with the homotype of *diluta* Cresson revealed no specific differences. The two species are therefore considered as synonymous.

PERICLISTA CALIFORNICA, new species.

Periclista mutabilis ROHWER, Can. Ent., vol. 41, 1909, p. 398. (Not Konow.)

In the pale inner orbits this species is related to *rileyi* (Cresson), but may be separated from that species by having the postocellar furrow angulate anteriorly and by the acuminate sheath.

Female.—Length 4 mm. Anterior margin of the clypeus deeply, arcuately emarginate, the lobes obtusely rounded apically; supraclypeal area uniformly convex; supraclypeal foveae deep, punctiform, not connected with the antennal foveae; middle fovea elongate, open above; frontal foveae obsolete; antennal furrows complete; ocellar area uniformly convex; ocellar basin obsolete; postocellar furrow angulate anteriorly; postocellar area narrowing posteriorly, its anterior width subequal with its length; postocellar line slightly longer than the ocellocular line; lateral ocelli well below the supra-orbital line; antennae filiform, fourth and fifth joints subequal; stigma long, straight below, sharply oblique apically; anal cell of the hind wings with a long petiole; sheath straight above, oblique apically, slightly convex below. Yellowish; antennae except the scape beneath, head above the antennae inside of the antennal furrows and to the supraorbital line, spot on the prescutum, scutum, metanotum and six basal tergites medianly, *black*; wings hyaline, iridescent, venation pale brown; costa and stigma yellowish.

Type-locality.—Claremont, California. Described from one female collected by C. F. Baker.

Type.—Cat. No. 19040, U.S.N.M.

PERICLISTA HICORIAE, new species.

This species is closely allied to *murtfeldtae* Dyar, but may be distinguished from that species by having the apical margin of the clypeus depressed.

Female.—Length, 5 mm. Anterior margin of the clypeus arcuately emarginate, the lobes obtusely rounded, the apical margin depressed, the basal portion convex; supraclypeal area rectangular in outline, uniformly convex; supraclypeal foveae elongate, deep,

not connected with the antennal foveae; middle fovea represented by a large, shallow, sloping-walled depression; antennal furrows nearly complete; frontal foveae punctiform, obscure; ocellar basin triangular in outline, open below, the lateral walls sharply defined and meeting on the postocellar furrow; postocellar furrow straight; postocellar area two and one-half times as wide as long; the lateral furrows curved, complete, the area uniformly convex; postocellar line subequal with the ocellocular line; antennae filiform, the fourth joint slightly longer than the fifth; vertex shining; thorax shining; anal cell of the hind wings with a very short petiole; stigma long, broader at base, gradually tapering to the transverse radius, then sharply oblique; sheath strongly concave above, apex acute, gradually tapering to the base. Black; clypeus, labrum, spot on the mandibles, legs, and abdomen, except the two basal tergites and median spots on the following tergites, *yellowish*; the upper part of the mesepisternum, the margin of the prescutum, margin of the scutum, scutellum, and scutellar appendage, ferruginous; posterior margin of the pronotum and tegulae pallid; wings hyaline, venation brown, costa and stigma yellowish.

Male.—Length 5 mm. The depressed portion of the clypeus is narrower than in the female; otherwise the head characters are the same; hypopygidium obtusely pointed apically. Black; clypeus, labrum, spot on the mandibles, palpi, angles of the pronotum, tegulae, most of the tergites, sternites, and legs *yellowish white*; wings as in female.

Type-locality.—Charter Oak, Pennsylvania. Described from two females (one type) and one male recorded under Bureau of Entomology No. Hopk. U. S. 11364. The larvae of this species feed on *Hicoria glabra*. Material collected by T. E. Snyder and reared May 7, 1914, by William Middleton.

Type.—Cat. No. 19041, U.S.N.M.

PERICLISTA SIMILARIS, new species.

This species is closely allied to *albicollis* Norton, but may be differentiated from that species by the better defined ocellar basin, which is nearly triangular in outline, and by having the lower wall of the basin well defined. (The ocellar basin of *albicollis* is pentagonal in outline, the walls are rounded, and the lower walls poorly defined.)

Female.—Length, 5 mm. Clypeus flat, the apical margin broadly, subangulately emarginate, lobes obtusely rounded; supraclypeal area rectangular in outline, uniformly convex; supraclypeal foveae rather shallow, indistinctly connected with the antennal foveae: middle fovea represented by a shallow, sloping-walled, elongate depression;

frontal foveae nearly obsolete, punctiform; antennal furrows complete; ocellar basin triangular in outline, well defined, the lower wall distinct; postocellar furrow straight; postocellar area convex, about two and one-quarter times as wide as long; postocellar line subequal with the ocellocular line; antennae slightly tapering apically, the fourth joint distinctly longer than the third; stigma narrow, subangulate at base, tapering to the transverse radius, then gently oblique; anal cell of the hind wings with a long petiole; sheath broad, straight above, gradually rounding to base. Black; posterior margin of the pronotum, tegulae, and legs, except the brownish femora and coxae and the infusate apical joints of the posterior tarsi, *yellowish*; the narrow apical margins and apical tergites ferruginous; wings hyaline, venation, including costa and stigma, black.

Type-locality.—Charter Oak, Pennsylvania. Described from one female recorded under Bureau of Entomology No. Hopk. U. S. 11363. Material collected by T. E. Snyder and reared May 7, 1914, by William Middleton. The larvae of this species feed on *Quercus alba*, and it may be that the larva recorded under the name *albicollis* from *Quercus alba* should properly be referred to this species. There are no specimens in the Dyar collection of *albicollis* which were reared from larvae on *Quercus alba*. All the reared specimens came from larvae feeding on *Quercus tinctoria*.

Type.—Cat. No. 19043, U.S.N.M.

PERICLISTA XANTHOGNATHA, new species.

In the general shape of the sheath and the pale mandibles this species resembles *occidentalis* Rohwer, from which it may be separated by the distinctly emarginate clypeus.

Female.—Length, 6 mm. Robust. Labrum long, obtusely rounded apically; clypeus shining, flat, the apical margin distinctly arcuately emarginate, the lobes broad, rounded; supraclypeal area trapezoidal in outline, gently convex; supreclypeal foveae deep, punctiform, not connected with the antennal foveae; middle fovea represented by a shallow depressed area; ocellar basin sharply defined above, open below; postocellar furrow straight; postocellar area convex, a little more than twice as wide as long, the lateral margin rounded; postocellar line distinctly longer than the ocellocular line; head shining, almost impunctate except the frontal area between the ocelli and the base of the antennae; antennae filiform, fourth joint very slightly longer than the fifth; thorax shining; stigma straight below, sharply oblique beyond the transverse radius; anal cell in the hind wings sessile; sheath straight above, the apex narrow, truncate, and very slightly upturned, from this projecting apex gradually rounded to base. Black; clypeus, labrum, spot on the mandibles, posterior margin of the pronotum, tegulae, legs, abdomen

except the middle of tergites one to eight (broader basally), *yellowish*; the margin of the prescutum, lateral margin of the scutum, part of the scutellum and upper part of the mesepisternum, ferruginous; wings hyaline, iridescent, venation pale brown, costa and stigma yellowish.

Type-locality.—Ithaca, New York. Described from one female labeled "from the Chittenden collection."

Type.—Cat. No. 19045, U.S.N.M.

ACORDULECERA HICORIAE, new species.

From *caryae* Rohwer, to which this new species seems to be most nearly allied, it may be separated by the black clypeus.

Female.—Length, 3.5 mm. Clypeus truncate; antennal foveae rather large, extending to the supraclypeal foveae; supraclypeal area slightly convex; middle fovea wanting; ocellar basin wanting; antennal furrows complete to the lateral ocelli; postocellar area not indicated; postocellar line distinctly longer than the ocelocular line; first joint of the flagellum markedly longer than the second; front sparsely clothed with short gray hair; stigma broadest at base, tapering rapidly toward the apex. Black; palpi, labrum and legs below the coxae yellowish; antennae piceous; wings dusky hyaline, venation dark brown.

Type-locality.—Charter Oak, Pennsylvania. Described from three females (one type) recorded under Bureau of Entomology No. Hopk. U. S. 11364a; larvae collected feeding on *Hicoria*, by T. E. Snyder; adults, which were reared by William Middleton, emerged May 20, 1914.

Type.—Cat. No. 18314, U.S.N.M.

Suborder Clistogastra.

Superfamily ICHNEUMONOIDEA.

Family EVANIIDAE.

PRISTAULACUS STRANGALIAE, new species.

Female.—Length 11.5 mm. Compared with the metatype of *Pristaulacus flavicrurus* Bradley from the Agricultural College, Michigan, this species differs as follows: The front impunctate; the hind coxae hardly aciculate; posterior femora black; the upper part of the mesepisternum shining, sparsely punctured; metapleurae shining, below irregularly reticulate, above with a few strong, irregular carinae; the first tergite has a strong spine at the lateral middle. This last-mentioned character, if constant, will separate *strangaliae* from all other species of *Pristaulacus*.

Type-locality.—Charter Oak, Pennsylvania. Described from one female recorded under Bureau of Entomology, No. Hopk. U. S. 11812a, which refers to a note stating that this species is a parasite of *Strangalia luteicornis* in *Carpinus caroliniana*. Material collected and reared May 26, 1913, by F. C. Craighead.

Type.—Cat. No. 19387, U.S.N.M.

Family ICHNEUMONOIDAE.

CRYPTUS KOEBELEI, new name.

Cryptus ferrugineus ASHMEAD, Proc. U. S. Nat. Mus., vol. 12, 1889, p. 412 (not Smith 1879 or 1861).

ODONTOMERUS STRANGALIAE, new species.

This species may be separated from *dichrous* Rohwer, its closest ally, by the basal area being almost completely closed, by the posterior lateral bases of the scutellum and the depression of the metanotum being without rugae, different venation, smaller size, etc.

Female.—Length 7 mm.; length of ovipositor 8 mm. Head below the antennae shining, with sparse, irregular punctures, in addition the median portion finely granular; above the antennae to the posterior orbits shining, impunctate; ocelli in a little less than an equilateral triangle; the postocellar line distinctly shorter than the ocellocular line; third antennal joint distinctly longer than the fourth, the joints not nodose apically; scutum shining, with a few well-defined punctures; the notauli not foveolate; posterior portion of the prescutum with five rugae, the median one being more prominent: dorsal aspect of the scutellum sculptured like the scutum; the lateral posterior aspect of the scutellum and the depressed area of the metanotum with a few very weak and poorly defined raised lines; dorsal aspect of the propodeum shining, the basal area with sides and basal width subequal, almost completely closed; the areola hexagonal; the anterior lateral legs one-fourth longer than the posterior lateral legs, the posterior margin less by one-fifth than the length of the posterior lateral legs; the angles of the propodeum on the dorsal lateral corners; sides of the propodeum practically impunctate; second recurrent vein much more than the length of the transverse cubitus beyond the transverse cubitus. Black; palpi yellowish; legs and abdomen, except two apical tergites which are piceous, rufous; head, thorax, and legs with long, white hair: wings hyaline, iridescent; venation brown.

Type-locality.—Ballston (Veitch), Virginia. Described from one female recorded under Bureau of Entomology, No. Hopk. U. S. 12280x, which refers to a note which indicates that this species is

parasitic on *Strangalia luteicornis* breeding in grape. Specimen reared by H. B. Kirk, emerging March 17, 1914, material collected by F. C. Craighead.

Type.—Cat. No. 18999, U.S.N.M.

PYRACMON CONOCOLA, new species.

Female.—Length 7.5 mm.; length of ovipositor beyond the tip of the abdomen 2.5 mm. Lower tooth of mandibles slightly longer than the upper; clypeus slightly rounded; malar space slightly shorter than the width of the mandibles at base; head except the shining posterior orbits, finely shagreened; posterior orbits straight; ocellocular line subequal with the interocular line; mesepisternum shining with sparse well defined punctures; propodeum shining with strong well defined carinae; areola and petiolar areas confluent, transversely rugose; abdomen shining, smooth; lateral carinae of the petiole strong and rather high; no carinae from the spiracles to the apex of the first tergite; second tergite shorter than the two following, its apical width one-fourth greater than its basal width; spiracle in middle; an indistinct gastrocoelus near the base; radius obtusely angulate, second abscissa one-third longer than the first; nervellus broken a little below the middle. Black; body clothed with short gray pubescence which is denser on the face; palpi and tegulae white; spot on the mandibles and scape beneath piceous; legs red; coxae and first joint of hind trochanters black; the apex of the posterior tibiae and their tarsi brownish. Wings hyaline, iridescent; venation black: lower margin of stigma dark brown.

Male.—Length 7 mm. Except that the mandibles are almost entirely white and that the second joint of the hind trochanters and hind tibiae and tarsi are strongly infuscated, the male does not differ essentially from the female.

Type-locality.—Colestin, Oregon, and Julian, California. Described from two females, (one type) recorded under Bureau of Entomology No. Hopk. U. S. 12535t², and from one female and one male recorded under Bureau of Entomology No. Hopk. U. S. 13278f. These numbers refer to notes stating that the species is parasitic on *Pinipestis*, species living in the cones of *Pinus coulteri*, and probably a parasite of *Evetria taxifoliella* in cones of *Pseudotsuga taxifolia*. Material collected by F. P. Keen and P. D. Sargent.

Type.—Cat. No. 20181, U.S.N.M.

ANGITIA MILLERI, new species.

Female.—Length, 4.5 mm.; length of ovipositor beyond the tip of the abdomen, 2.5 mm.; length of antennae, 4.5 mm. Teeth of the mandibles subequal: anterior margin of the clypeus gently rounded; head

shagreened; scutum shagreened, convex, anterior middle somewhat shining and with a number of large, poorly defined punctures; mesepisternum shagreened with a number of large, poorly defined punctures; propodeum shagreened; carinae weak, obsolete posteriorly, so the middle basal area is the only area completely defined, the costulae are present; abdomen shagreened; petiole and post-petiole shining; spiracles of first tergite rather prominent, no carinae from them to apex of segment; second tergite shorter than two following, its posterior width twice as great as the anterior width; spiracle at the middle, a small lanulae midway between the spiracles and base; radius obtusely angulate; first abscissa one-half as long as second; areolet petiolate; petiole (in wing) as long as cell; nervellus broken below the middle. Black; mandibles, palpi, scape beneath, tegulae, four anterior coxae, and trochanters whitish; legs ferruginous; posterior coxae, spot on intermediate pair, apex of the posterior femora, four anterior tibiae, and tarsi dark brown or black. Wings hyaline, iridescent; venation black.

Type-locality.—Ashland, Oregon. Described from one female recorded under Bureau of Entomology No. Hopk. U. S. 10833d^s, which refers to note stating that the species was reared from cones of sugar pine infested with *Dioryctria abietella*. Material collected by P. D. Sargent, reared by J. M. Miller, for whom the species is named.

Type.—Cat. No. 20178, U.S.N.M.

ANGITIA TINEAVORA, new species.

Female.—Length, 4.5 mm.; length of ovipositor beyond the tip of the abdomen, 1.75 mm. Teeth of the mandibles subequal; clypeus nearly truncate; face shagreened; mesonotum shagreened and with a few distinct punctures; middle basal area triangular; areola and petiolar areas transversely striate on a granular surface; carinae of propodeum strong; mesepisternum and sternum granular with a number of large, not especially distinct, punctures; no carinae from the spiracle to the end of first tergite; second tergite as long as the two following combined, granular, the spiracles slightly beyond the middle, no lanulae; radius obtusely angulate, first abscissa one-fourth shorter than the second; areolet small, petiolate, petiole as long as the cell (in some wings the areolet is wanting); discoidal cell at base narrower than length of nervellus; nervellus broken below the middle. Black; clypeus, palpi, scape, pedicel, and tegulae whitish; legs ferruginous to rufo-ferruginous; four anterior tarsi paler; the spot on the posterior coxae and apices of posterior tibiae and their tarsi brownish. Wings hyaline, iridescent; venation dark brown.

Male.—Length, 5 mm. Differs from female in having scape and pedicel black above; anterior coxae and trochanters are whitish; the usual silvery pubescence on the face is more pronounced.

Type-locality.—Mistletoe, Oregon. Described from two females and one male. Recorded under Bureau of Entomology No. Hopk. U. S. 14210*b*, which refers to a note stating that this species is parasitic on Tineid moths infesting the fruit body of *Polyporus dryophilus*. Material collected and reared by J. M. Miller.

Type.—Cat. No. 20177, U.S.N.M.

MELEBORUS LASPEYRESIAE, new species.

Female.—Length, 7.5 mm.; length of the ovipositor beyond the end of the abdomen, 1.25 mm. Teeth of the mandibles equal; anterior margin of the clypeus rounded; malar space less than the width of the mandibles at the base; head shagreened; ocellocular line slightly less than the broadest diameter of the lateral ocellus; posterior orbits nearly straight, two-thirds of the cephalo-caudad diameter of the eyes; mesothorax shagreened in addition to distinct, well-defined rather close punctures; propodeum with well-defined strong carinae; basal lateral areas with punctures in addition to shagreening, posterior areas without punctures; petiole with a few irregular lines above; postpetiole shagreened; no carinae from spiracle of first tergite to apex; second tergite subequal in length to two following, its posterior width one-third greater than its anterior; its entire surface shagreened; the spiracles distinctly beyond the middle with a small tubercle nearer the spiracle than the base; radius obtusely angulate, the second abscissa one-third longer than the first; discoidal cell distinctly narrower posteriorly than the length of the nervulus; second intercubitus entirely wanting; nervellus slightly broken at about the middle. Black; mandibles, palpi, scape, pedicelum beneath, tegulae, four anterior trochanters, the second posterior trochanters and anterior tarsi yellowish white; legs below the trochanters rufous, posterior femora and apices of the posterior tibiae and posterior tarsi somewhat brownish, the color being more intense on the tarsi. Wings hyaline, iridescent; venation dark brown.

Type-locality.—Talent, Oregon. Described from two females recorded under Bureau of Entomology, No. 11492*e*, which refers to a note stating that the species is parasitic on *Laspeyresia toruta* living in the cones of *Pinus ponderosa*. Material collected by P. D. Sargent and reared by J. M. Miller.

Type.—Cat. No. 20180, U.S.N.M.

PHADROCTONUS ARGYRESTHIAE, new species.

This species is easily distinguished from *minutus* Ashmead, by the short ovipositor.

Female.—Length, 4.5 mm; length of ovipositor beyond the end of the abdomen, 0.75 mm. Teeth of the mandibles equal; clypeus truncate; head shagreened; ocellocular line subequal with the shortest diameter of the lateral ocellus; thorax shagreened in addition to some scattered, poorly-defined punctures; carinae of the propodeum strong; middle basal area practically obsolete because the carinae parallel each other; petiolar area transversely striate; petiole and postpetiole shining; no carinae from spiracles to apex of first segment; second tergite longer than the two following, twice as wide posteriorly as basally; the spiracles beyond the middle, the small lanulae slightly nearer the spiracles than the base of the segment; radius obtusely angulate; second abscissa slightly more than twice as long as first; nervellus not broken. Black; mandibles, palpi, scape, pedicel underneath, tegulae, anterior coxae, four anterior trochanters and spot on intermediate coxae beneath, yellowish white; apical margin of the second and following tergites, apical sternites, fulvo-ferruginous; legs fulvo-ferruginous; coxae, except where mentioned, black; posterior femora slightly brownish base and apices of the posterior tibiae blackish; posterior tarsi and apical joint of the intermediate pair blackish. Wings hyaline, iridescent; venation black.

Male.—Length, 5 mm. Except that the pale color is more yellow it does not differ essentially from the female.

Type-locality.—Ashland, Oregon. Described from 3 females and 3 males recorded under Bureau of Entomology, No. Hopk. U. S. 12565d³, which refers to a note stating that this species is a parasite on a species of *Argyresthia* living on *Libocedrus decurrents*.

Type.—Cat. No. 20179, U.S.N.M.

BOETHUS SCHIZOCERI (Howard).

Eubadizon schizoceri HOWARD, Insect Life, vol. 1. p. 44, fig.

Boethus howardi DAVIS, Trans. Amer. Ent. Soc., vol. 24, 1897, p. 290.

Boethus daeckei VIERECK, Proc. Ent. Soc. Wash., vol. 11, 1909, p. 210.

It was unnecessary for Davis to propose a new name for this species. His own reference proves that he had the material which Doctor Howard figured. The specimen from which the drawing was made is in the United States National Museum, and it is one of the types of *Boethus howardi*. *Boethus daeckei* is the male of *schizoceri*. Rearings from the host of this species indicate that the color of the fore legs may vary from brownish to yellowish.

Family BRACONIDAE.

COSMOPHORUS PITYOPHTHORI, new species.

This species is closely allied to but may be readily separated from *hopkinsi* Ashmead by the sculpturing of the first tergite, the darker and shorter first abscissa of radius.

Female.—Length 2.5 mm; length of ovipositor .75 mm. Head shining; antennae slender, 14-jointed, the third and fourth joints subequal; mesoscutum shining; propodeum granular with the faint carina separating the dorsal and posterior aspects; discocubitus joining the radius so near base that there is no real first abscissa of radius; first tergite striato-granular; remaining tergites shining impunctate. Black; legs and abdomen beyond first segment dark piceous; wings hyaline, faintly dusky, venation pale brown.

Male.—Length 1.75 mm. Differs from the female in having a few striae at the base of the second tergite; and in the 13-jointed antennae.

Type-locality.—Moraga Ridge, Oakland, California. Described from three females (one type) and one male (allotype) reared from twigs of *Pinus tuberculata* infested by *Pityophthorus*, species. Material collected by F. P. Keen.

Type.—Cat. No. 19951, U.S.N.M.

Genus DIOSPILUS Haliday.

As used here the genus *Diospilus* agrees with the characterization given by Szepligetti. However, the last two species described are not typical in venation and might be the types of a new group, but it seems to the author that the characters offered for the genera of this subfamily are not such that they may be expected to hold for a large number of species. He has therefore considered it advisable to place *californicus* and *neoclyti* in the genus *Diospilus*.

A. CLYPEUS NOT SHARPLY DEFINED Laterally; width fully three times as great as the median length; first abscissa on the radius less than one-fifth the length of the second.

DIOSPILUS WASHINGTONENSIS, new species.

Female.—Length 6 mm.; length of the ovipositor 7 mm.; length of the antennae 4 mm. Clypeus shining, with large separate punctures; head immediately below the antennae transversely striato-punctate, rest of the head below the antennae with sparse, well separated punctures; head above the antennae and posterior orbits shining, impunctate; ocelli in an equilateral triangle; third antennal joint slightly longer than the fourth; prescutum, scutellum, and

scutum shining, nearly impunctate; suture between the scutum and the scutellum with three strong rugae; the posterior lateral aspects of the scutellum and a depressed area of the metanotum with rugae; the metanotum medianly with two prominent carinae which converge until they meet in the form of a rounded tubercle at the apical middle margin; propodeum reticulate, basal median area more finely so, the basal lateral areas finely punctured; mesepisternum sculptured like the scutum except for the obliquely foveolate depression; first abscissa of the radius about one-sixth or less than the length of the second; second cubital cell slightly narrowed below; recurrent vein basad of the first transverse cubitus by about one-third the length of the first transverse cubitus; nervulus interstitial; first tergite longitudinally striate; extreme base of the second tergite finely, irregularly aciculate; the apex of the second and all of the following tergites shining, impunctate. Black; clypeus, mandibles except apices and scape beneath rufo-piceous; palpi and tegulae pale yellow; legs rufous, apical fourth of the posterior tibiae dusky; wings hyaline, venation pale brown; body with short, gray hair.

Type-locality.—Easton, Washington. Described from one female collected by Koebele.

Type.—Cat. No. 19003, U.S.N.M.

B. CLYPEUS SHARPLY DEFINED Laterally; ABOUT TWO AND ONE-HALF TIMES AS WIDE AS LONG; FIRST ABSCISSA ON THE RADIUS BUT LITTLE SHORTER THAN THE SECOND.

a. First two tergites red, the second completely sculptured.

DIOSPILUS CALIFORNICUS, new species.

Female.—Length 5 mm.; length of the ovipositor 4.5 mm.; length of the antennae 3.75 mm. Apical margin of the clypeus narrowly depressed, the surface shining, sparsely punctured; head below the antennae with separate, well-defined punctures, which are more widely separated medianly and laterally; head above the antennae and posterior orbits shining, practically impunctate; ocelli in a little less than an equilateral triangle; latrad or each lateral ocellus is a narrow, elongate, crescent-shaped fovea; third and fourth antennal joints subequal; prescutum depressed posteriorly, reticulate; notauli strongly foveolate; scutum, prescutum, and most of the mesepisternum shining, impunctate; sides of the pronotum coarsely reticulate; suture between the scutum and scutellum with one ruga; posterior lateral aspects of the scutellum and depressed area of the pronotum with rather weak rugae; metanotum medianly with two carinae, which converge posteriorly and meet in the form of an elongate flattened area in the apical middle; propodeum coarsely reticu-

late, dorsal middle with median carina; dorsal lateral areas shining, impunctate; second cubital cell slightly narrower above; first recurrent vein shortly antifurcal; nervulus interstitial; first two tergites longitudinally striato-reticulate; lateral margins of the second tergite and all of the following tergites shining, impunctate. Black; palpi and tegulae pale yellowish; legs and first two tergites rufous; wings hyaline, iridescent, venation pale brown; stigma darker.

Type-locality.—Santa Cruz Mountains, California. Described from two females (one, type) from the collection of Ashmead.

Type.—Cat. No. 19004, U.S.N.M.

b. Tergites black, second sculptured at base only.

DIOSPILUS NEOCLYTI, new species.

Male.—Length, 6.5 mm.; length of the antennae, about 4 mm. Anterior margin of the clypeus scarcely depressed, the surface shining, almost impunctate; dorsal margins sharply defined by punctiform foveae; head below the antennae shining, with separate, uniform, well-defined punctures; head above the antennae and posterior orbits shining, practically impunctate; ocelli in a low triangle, without well-defined depressions laterally; third antennal joint slightly shorter than the fourth; prescutum reticulate posteriorly; notauli strongly foveolate; suture between the scutum and scutellum with one ruga; prescutum, sentum, scutellum and mesepisternum shining, practically impunctate; sides of the pronotum reticulate; metanotum, propodeum, and venation as in *californicus*; the first tergite and the base of the second longitudinally striato-reticulate, the reticulations predominating on the second tergite, the striations on the first; the apical margin of the second and all of the following tergites shining, impunctate. Black; palpi yellowish; legs rufous; posterior tibiae and tarsi dusky; tegulae yellowish; wings hyaline, venation pale brown; body with short gray pile.

Type-locality.—North Cheyenne Canon, Colorado. Described from one male recorded under Bureau of Entomology, No. Hopk. U.S.11924, which refers to a note stating that this is a parasite of *Neoclytus caprae* Say breeding in *Quercus gambelli*, material collected by A. B. Champlain and reared by H. B. Kirk, adult emerging April 6, 1914.

Type.—Cat. No. 19005, U.S.N.M.

This may possibly be the male of *californicus*, but as there is difference in the sculpturation and color it seems advisable to consider it as a distant species.

PHANEROTOMA ERYTHROCEPHALA, new species.

In structure this species falls near *tibialis* Haldeman, but may readily be distinguished by the sides of the propodeum being more coarsely sculptured than the mesepisternum and by the reddish head and black thorax and abdomen.

Female.—Length, 5 mm. Head rounded behind the eyes, the cephal caudad length of the posterior orbits about two-thirds the diameter of the eye; eyes strongly convex, oval; malar space slightly longer than the width of the mandibles at base but much less than the length of the eye; clypeus shining, more convex basally, the apical margin tridentate; supraclypeal fovea poorly defined, the interfoveal line shorter than the length of the clypeus; face rather coarsely sculptured with irregular lines and granulations; frons and vertex with irregular (mostly transverse) lines; ocelli in an equilateral triangle; notauli obsolete; scutum granular with a few scattered punctures, the posterior middle reticulate; scutellum punctured on a granular surface; dorsal surface of propodeum irregularly punctured and with a few irregular lines; mesepisternum granular, with a few punctures posteriorly; sides of propodeum more coarsely sculptured than mesepisternum; carapace nearly uniformly coarsely reticulate; recurrent interstitial; nervulus and second abscissa of discoideus forming an acute angle; first and second abscissa of radius subequal. Black; head, except interocellar area, scape, pedicellum, prothorax, tegulae, ferruginous; legs ferruginous, apices of hind femora and tibiae blackish; wings hyaline without bands, costa, subcosta and stigma black; rest of venation pale brown.

Male.—Length 5 mm. Characters as in female.

This species varies in the amount of ferruginous on the prothorax and in having the first abscissa of radius slightly shorter than the second.

Type-locality.—Glenwood Springs, Colorado. Described from two females and one male (allotype) with Bureau of Entomology number Hopk. U.S.10857f, which refers to note stating that this species is probably a parasite of *Laspeyresia toruta* living in the cones of *Pinus ponderosa*. Material collected by J. J. Lowell and reared by J. M. Miller.

Type.—Cat. No. 20174, U.S.N.M.

MACRONEURA URICHI, new species.

This species is apparently closely allied to *Macroneura consobrinus* (Szépligéti), from which it can be easily distinguished by the longer ovipositor and pale four anterior legs.

Female.—Length of body 18 mm.; length of ovipositor 42 mm.; length of antennae 18 mm. Face reticulate; front and posterior orbits smooth; ocelli surrounded by a furrow which extends to between bases of antennae; third antennal joint distinctly longer than the fourth; thorax smooth, shining; posterior coxae more than half as long as their femora; longer spur of the posterior tibiae one-third the length of the hind basitarsus; abdomen smooth and shining. Black; four anterior legs, the hind trochantine and base of hind tibiae fulvo-ferruginous; first three tergites rufo-ferruginous; wings yellow, the anterior pair with two broad black bands (i. e. behind stigma and apex of wing), the hind pair black beyond middle.

Male.—Length 12.5 mm.; length of antennae 12.5 mm. Agrees with female, except the fourth abdominal segment is rufo-ferruginous.

Type-locality.—Port of Spain, Trinidad, British West Indies. Described from five females (one type) and one male collected by F. W. Urich, for whom the species is named.

Type.—Cat. No. 19662, U.S.N.M.

ODONTOBRACON OEMEOVORUS. new species.

Female.—Length 8 mm.; length of the ovipositor 2 mm.; length of the antennae 7 mm. Head below the antennae coarsely reticulate, with a poorly defined median carina; head above the antennae and posterior orbits shining, impunctate; no fovea outside of the lateral ocelli; antennae hairy, third and fourth joints subequal; scutum, prescutum, and scutellum shining, practically impunctate; posterior portion of the prescutum with longitudinal carinae, which form two Vs, the posterior one attaining the posterior margin of the scutum; anterior portion of the notauli finely foveolate; suture between the scutum and scutellum with six strong rugae; posterior lateral aspects of the scutellum and the depression of the metanotum with strong rugae; episternauli broad, reticulate; sternauli foveolate; suture and posterior margin of the mesepisternum strongly foveolate; mesepisternum shining; lateral aspects of the pronotum irregularly striato-reticulate; dorsal and lateral aspects of the propodeum reticulate; dorsal middle of the propodeum shining except a median carina along the sides of which are foveolations; first tergite longitudinally striate, the striae more sharply defined medianly and with two predominating carinae on the base, which extend almost to the middle of the tergite; second tergite with an oval median area which is about twice as wide as long, the apical margin of which is not striate, remaining portion of the embossed area strongly striate; sides of the second tergite reticulate; extreme base of the third tergite medianly with fine longitudinal striae; most of the third and all of the following segments shining, impunctate; third, fourth, and fifth tergites at about middle with an indistinct suture; first abscissa on

the radius one-fourth shorter than the second; recurrent vein received two-thirds the length of the first abscissa on the radius, basad of the first transverse cubitus. Black; propodeum dorsally and abdomen rufous; wings dark brown, venation dark brown; body with long, sparse gray hair.

Type-locality.—Florida; Louisiana. Described from one female (type) from Appalachicola, Florida, recorded under Bureau of Entomology No. Hopk. U. S. 3381*g*, which refers to a note stating that this is parasitic on *Oeme rigida*, material collected and reared by W. F. Fiske; and one female (paratype) from Morgan City, Louisiana, recorded under Bureau of Entomology No. Hopk. U. S. 3398*d*, which refers to a note stating that it is a parasite of *Oeme rigida*, material collected and reared by W. F. Fiske.

Type.—Cat. No. 19001, U.S.N.M.

Paratype has the sides of the propodeum rufous.

ODONTOBRACON ELAPHIDIOVORUS, new species.

Female.—Length, 11 mm.; length of ovipositor, 5 mm.; length of antennae, 9.5 mm. Face below the antennae coarsely punctato-reticulate, with a median carina, which becomes broader below; head above the antennae and the entire posterior orbits shining, impunctate; latrad of each lateral ocellus is a curved furrow; antennae hairy, the third and fourth joints subequal; scutum, prescutum, and scutellum shining, with a few widely scattered punctures; the posterior part of prescutum and the scutum medianly reticulate; notauli finely foveolate; suture between the scutum and scutellum with five strong rugae; posterior lateral bases of the scutellum and the depression of the metanotum with rugae; propodeum reticulate, the basal middle without sculpture except a median longitudinal carina; sides of the pronotum with dorsad-ventrad or slightly oblique rugae; the episternauli broad, irregularly reticulate; mesepisternum shining, impunctate; sternauli nearly completely foveolate; sides of the propodeum shining, with well-separated, distinct punctures; first tergite longitudinally striate or striato-reticulate, with two strong carinae, which extend half its length; the second tergite with an oval-shaped embossed area, which is longitudinally striate; sides of the second tergite punctato-reticulate; the base of the third tergite medianly striate, laterally punctato-reticulate; the apex of the third and the following tergites shining, impunctate; first abscissa on the radius one-third shorter than the second; recurrent vein almost the length of the first abscissa on the radius basad of the first transverse cubitus. Black; body with sparse, long, white hairs; scutellum, propodeum, metothorax, and abdomen rufous; wings brownish, venation pale brown.

Male.—Length, 10 mm. Agrees well with the above characterization of the female.

Type-locality.—United States. Described from three specimens from Texas, one female type, a male allotype, and a female paratype; a single female from Camden, New Jersey, collected June 30; a single female from Jackson, Florida; one specimen from Mount Vernon, Virginia, recorded under Bureau of Entomology No. Hopk. U. S. 11845*d*, which refers to a note stating that this species is parasitic on *Elaphidion vittorum*, material collected by F. C. Craighead, adult emerging February 16, 1914; one female from the Catalina Mountains, Arizona, recorded under Bureau of Entomology No. Hopk. U. S. 12679*a*, which refers to a note indicating that this is a parasite of a species of *Elaphidion* which works in *Quercus emoryi*.

Type.—Cat. No. 19000, U.S.N.M.

ODONTOBRACON CALIFORNICUS, new species.

Female.—Length 7 mm.; length of ovipositor 3.5 mm.; length of antennae 6 mm. Head below the antennae reticulate, with a strong medium carina which is represented immediately above the clypeus by a shining area; head above the antennae and posterior orbits shining, impunctate; behind each lateral ocellus is a small depressed area; antennae hairy, third and fourth joints subequal, oblique apically; scutum, prescutum and scutellum shining, practically impunctate; posterior portion of the prescutum with two longitudinal striae, which attain the apical margin of the scutum; notauli feebly foveolate posteriorly; suture between the scutum and the scutellum with nine rugae; anterior portion of the notauli very finely foveolate; episternauli not sculptured; sternauli foveolate; episternum shining, impunctate, posterior margin foveolate; lateral aspect of the pronotum with oblique rugae ventrally, sparsely reticulate dorsally; lower portion of the lateral aspect of the propodeum shining, sparsely punctured; dorsal aspect and dorsal lateral aspect of the propodeum reticulate; median area reticulate with strong median carina which divides at the top of the posterior face into two poorly defined carinae which extend to the ventral margin of the posterior face; first tergite striate with two prominent carinae basally, which are almost half the length of the tergite and converge apically; second tergite with an oval-shaped median area which is three times as wide as long; sides of the second tergite reticulate; extreme base of the third tergite finely reticulate; most of the third and the entire following segments shining, impunctate; at the apical third of the third and fourth tergites is a transverse furrow; first abscissa of the radius half the length of the second recurrent, about the length of the first abscissa of the radius basad of the first transverse cubitus. Rufous; head, antennae, legs, tegulae, pronotum and a spot on the mesepi-

terum anteriorly; black; body with sparse long gray hairs; wings dark brown, venation the same color.

Male.—Length 5 mm.; length of the antennae 4 mm. Agrees well with the above description of the female except for the abdomen, where the following differences may be noted: First tergite anteriorly is reticulate; the embossed area of the second tergite is one and one-half times as wide as long; the entire third, fourth, and fifth tergites are longitudinally striate and there are no transverse sutures. Color as in female.

Type-locality.—Santa Cruz Mountains, California. Described from one female (type) and three males, one allotype.

Type.—Cat. No. 19002, U.S.N.M.

Superfamily SERPHOIDEA.

POLYGNOTUS BURKEI, new species.

In Ashmead's table to the species of *Polygnotus* this species will go to *diplosidis* Ashmead, from which it may be separated by the distinct furrow from the anterior ocellus.

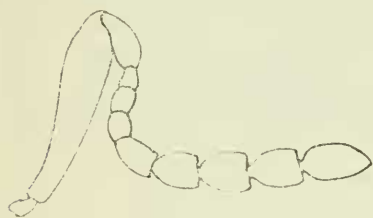


FIG. 1.—POLYGNOTUS BURKEI, NEW SPECIES. ANTENNA OF FEMALE.

Female.—Length 1 mm. Head shining impunctate; vertex finely transversely aciculate; a distinct elongate depression below the anterior ocellus; intraocellar line distinctly shorter than the ocellocular line; pedicellum slightly longer than

the two following joints; mesoscutum slightly opaque anteriorly, shining posteriorly; notauli obsolete; mesopleurae shining, without sculpture; metapleurae feebly sculptured; petiole longitudinally striate; base of second tergite longitudinally aciculate, rest of the abdomen shining, without sculpture. Black; four anterior tibiae and tarsi and the posterior tarsi brownish; wings hyaline.

Male.—Length 1 mm. Agrees with the female.

Type-locality.—Placerville. California. Described from four females (one type) and four males (one allotype) recorded under Bureau of Entomology number Hopk. U. S. 12703a, which refers to a note stating that this species is parasitic on a Cecidomyid which lives under the bark at the base of the needles of *Pinus ponderosa*. The eggs of the parasite are laid in the eggs of the host, and the adult parasite emerges from the cocoon of the host. Material collected and reared by H. E. Burke, for whom the species is named.

Type.—Cat. No. 19638, U.S.N.M.

Superfamily CHALCIDOIDEA.

TRIGONURA CALIFORNICA, new species.

This species runs directly to *Trigonura* in Ashmead's classification, but differs from Ashmead's description in the 12-jointed antennae and seems to differ from Sichel's description, and figures in the length of the prothorax and the shape of the scutellum. Superficially it resembles closely *Phasgonophora sulcata*, but is immediately separated from that by the absence of a transverse carina and truncation on the first tergite.

Female.—Length 7 mm. Head coarsely reticulate; ocelli in a curved line, the lateral ocelli touching the posterior dorsal margin of the head; interocellar line about one-fifth shorter than the ocellular line; scape subequal in length with the first three flagellar joints; antennae with a small ring-joint so there are 12 joints, the first two flagellar joint subequal; prothorax sloping anteriorly, the anterior face transversely striato-reticulate medianly; dorsally the prothorax is depressed medianly; thorax coarsely reticulate; the mesopleural fovea striate; lower posterior margin of scutellum with a foveolate furrow; metanotum foveolate; propodeum coarsely reticulate; four anterior femora swollen beyond middle; posterior femora with seven teeth, the basal one the largest; abdomen shining, the first segment subequal in length with the six following, the second to fifth tergite with setignous punctures apically, the sixth with reticulations, the seventh with reticulations basally. Black, clothed with white pubescence; tegulae pale piceous; four anterior legs beyond trochanters, posterior legs beyond femora and the seventh segment rufous; the posterior femora basally and the sides of the abdomen are rufopiceous; wings hyaline, dusky beyond middle; venation black.

Male.—Length 6.25 mm. Except for the sexual characters, agrees with the female.

Type-locality.—Placerville, California. Described from four females (one type) and one male (allotype) recorded under Bureau of Entomology number Hopk. U. S. 11611e, which refers to a note stating these specimens were reared from sections of willow infested by larvae of *Chrysobothris*, on which they were probably parasitic. Material collected and reared by H. E. Burke.

Type.—Cat. No. 19636, U.S.N.M.

EUSANDALUM ACMAEORERAE, new species.

This species may be separated from the other described North American species by the color, by having the posterior margin of the pronotum depressed and less sculptured, and by the arrangement and number of spines on the anterior tibiae.

Female.—Length 1.75 mm. Face reticulate; frontal elevations transversely striato-reticulate; vertex granular; head posteriorly and posterior orbits striato-granular; pronotum reticulate with a tendency to striation; notauli complete; scutum and prescutum reticulate; scutellum more finely reticulate and with a decided tendency to longitudinal striation; prepectus sculptured like the scutum; mesepisternum reticulate, the posterior and ventral part striato-reticulate; mesosternum laterally striate; the upper face of the anterior tibia with six small spines which are widely separated so they begin at the basal third and extend to near apex of tibia; abdomen reticulate. Cupreous with greenish reflections; legs below trochanters testaceous, the femora, especially the posterior pair, more or less dusky; wings dusky kyaline; venation dark brown.

Type-locality.—Placerville, California. Described from two females (one type), recorded under Bureau of Entomology number Hopk. U. S. 11675*d*. Specimens bred from a pupal cell of *Acmaeodera* in *Ceanothus integerrimus* by H. E. Burke.

Type.—Cat. No. 19637, U.S.N.M.

Superfamily SPHECOIDEA.

Genus DICRANORHINA Shuckard.

Syn.: *Piagetia* RITSEMA.

In the Proceedings of the United States National Museum¹ it is erroneously stated that Turner was in error in reinstating Shuckard's name for this genus. The error was on part of the author and he wishes to apologize for the mistake and for criticising Mr. Turner. The spelling by Hope was *Dicronorrhina*, which was amended to *Dicranorrhina*, while the spelling by Shuckard was *Dicranorhina*.

TACHYSPHEX WASHINGTONI, new species.

This species is related to *tenuipunctus* Fox but may be readily separated from that species by the character of the clypeus.

Female.—Length 9 mm. Clypeus convex medianly, the apical margin depressed, medianly with a shallow emargination, sublaterally with two obtuse teeth; the anterior portion of the median convexity shining, impunctate, the basal portion sculptured like the front; front opaque, finely rather sparsely punctured; frontal fovea distinct, complete; intraocellar area convex, parted by a deep furrow; postocellar depression angulate posteriorly and with a deep furrow extending almost to the occiput; head behind the ocelli shining, very sparsely punctured; the distance between the eyes at the vertex slightly greater than the length of the second and third

¹ Vol. 49, 1915, p. 245.

antennal joints, but decidedly shorter than the length of the third and fourth antennal joints; antennae slightly tapering apically, the third joint about one-fourth shorter than the fourth; mesoscutum shining with sparse distinct punctures; scutellum sculptured like the scutum but more finely so, not impressed; mesepisternum shining, reticulate, practically impunctate; mesepimeron sculptured like the mesepisternum; sides of the propodeum finely, longitudinally aciculate; dorsal aspect of the propodeum rather coarsely, uniformly granular, without an impressed line; dorsal and posterior aspects not sharply separated; third cubital on the radius subequal in length with the second on the same vein; legs rather feebly spined, the longer calcaria on the posterior tibiae subequal in length with the posterior basitarsus; pygidium one and one-fourth times as long as the basal width, shining, with a few large, well-separated punctures, truncate apically. Black; the first two abdominal segments except the extreme base of the first rufous; calcaria and spines of the legs ferruginous; wings hyaline, venation ferruginous; head and thorax with dense gray pile; abdominal tergites one to four with narrow apical band of silvery pubescence.

Type-locality.—Grand Coulee, Columbia River, Washington. Described from one female collected July 12, 1902.

Type.—Cat. No. 18995, U.S.N.M.

LARROPSIS GREENEI, new species.

This species is related to *divisa* Patton, but may readily be separated from that species by the sculpture of the dorsal aspect of the propodeum.

Female.—Length 13 mm. Anterior margin of the clypeus rounded medianly, emarginate laterally with two obscure teeth, the outer one larger apically, margin hardly depressed, gently, evenly, convex medianly; the anterior portion of the median convexity shining with large, well-separated punctures; sides of the posterior portion of the median convexity finely, closely punctured; front finely, very closely punctured except the median area from the anterior ocellus to the bases of the antennae which has large, sometimes confluent punctures; intraocellar area uniformly convex, without a median furrow; postocellar depression reduced to a curved furrow; vertex with large, separate punctures; posterior orbits punctured like the front; space between the eyes at the vertex subequal with the length of the second, third, and fourth antennal joints; antennae slender, scarcely tapering apically, longer than the head and thorax; third and fourth joints subequal; anterior face of the pronotum finely granular; scutum so closely punctured as to appear granular; scutellum slightly convex, with a median furrow and with distinct, close, well-defined

punctures; metanotum closely striato-granular; dorsal aspect of the propodeum irregularly transversely reticulate with striae especially prominent in the median area; the base with a short, sharply defined median keel; dorsal middle with a circular fovea which is surrounded by two rings of striation; posterior face oblique with a deep median furrow which is broader posteriorly and transversely striate, dorsally the striae are somewhat oblique tending to meet at the top of the median furrow; sides of the propodeum finely granular, dorsally with a tendency to an oblique aciculation; mesepisternum opaque, finely granular; legs rather feebly spined, the longer calcaria of the posterior tibiae about one-sixth shorter than the posterior basitarsus; third cubital cell on the radius distinctly longer than the second; pygidium sharply defined, about two and one-half times as long as its basal width, with sparse, well-defined punctures apically with a few coarse hairs, the apical margin truncate, angles rounded. Black, the first and second tergites obscurely rufous; wings dark brownish, venation dark brown; body almost without pubescence.

Type-locality.—Riverton, New Jersey. Described from one female collected September 22, 1907, by C. T. Greene, for whom the species is named.

Type.—Cat. No. 18996, U.S.N.M.

It is not unlikely that other specimens of this species will have the abdomen entirely black or that some of them will have the first two segments rufous.

XYLOCELIA BEULAHENSIS, new species.

Close to *nigritus* (Fox) but may be distinguished from that species by the finer sculptured head and by the yellow spot on the tubercles.

Female.—Length 5.25 mm. Clypeus polished, with a few setigerous punctures; the apical margin with three large teeth, the part between the lateral teeth somewhat depressed; supraclypeal area polished; front reticulate and with rather close, well defined, distinct punctures in addition; vertex and posterior orbits reticulate but much more sparsely punctured than the front; ocelli in a low triangle, the postocellar line slightly shorter than the ocellocular line; third antennal joint a very little longer than the fourth; mesoscutum very finely granular, the anterior part with distinct, rather close, well-defined punctures in addition; scutellum shining, nearly impunctate; dorsal aspect of propodeum reticulate, posterior aspect shining, almost without sculpture, a rather large punctiform fovea at dorsal middle of posterior aspect from which a carina extends to abdominal fossa; sides of propodeum shining, almost without sculpture; pygidium rather well defined, one and one-fourth times as long as basal width, granular, with a few irregular punctures basally. Black; posterior half of tubercles yellow; wings hyaline, iridescent, venation dark brown, stigma black.

Type-locality.—Beulah, New Mexico. Described from one female collected by T. D. A. Cockerell in August.

Type.—Cat. No. 18994, U.S.N.M.

XYLOCELIA VIRGINIANA, new species.

In Mickel's key to the species of *Xylocelia*¹ this species runs to *vallicolae salicis* (Rohwer) but it is quite different from that species, being much larger and has the mesoscutum shining. It is something like what the male of *americana* (Packard) would be expected to resemble, but it does not agree sufficiently well with that species to be considered as its male.

Male.—Length 5.5 mm. Anterior margin of the clypeus with a median notch; front opaque, closely granular, with confluent punctures in addition which at first sight give the impression that it is irregularly striato-punctate; vertex shining, sparsely punctured; posterior orbits shining, finely irregularly striato-punctate; ocelli large, in a low triangle; the postocellar line a trifle longer than the ocellular line; third antennal joint slightly longer than the fourth; eleventh and twelfth joints feebly spined beneath; mesoscutum polished, very sparsely punctured posteriorly but anteriorly the punctures become closer, with four raised longitudinal lines on the posterior part; scutellum shining with a few setigerous punctures and a faint impressed median line; dorsal aspect of the propodeum reticulate, separated from the posterior aspect by a broad foveolate furrow; the posterior aspect coarsely reticulate with a triangular shaped area in the dorsal middle; sides of propodeum coarsely reticulate, stigmal groove broad and well defined; mesepisternum reticulate anteriorly with a few irregularly raised lines posteriorly; abdomen polished. Black; palpi yellowish white; tibiae and tarsi ferruginous, the tibiae with a dusky spot above; wings hyaline, iridescent, venation dark brown, stigma black; clypeus and supra-clypeal area with dense white pubescence; a small yellow spot on the anterior margin of the tegulae.

Type-locality.—Falls Church, Virginia. Described from seven males (one type) collected June 7, 1914, by William Middleton.

Type.—Cat. No. 21397, U.S.N.M.

XYLOCELIA METATHORACICUS MICKEL.

Xylocelia metathoracicus MICKEL, Ann. Ent. Soc. Amer., vol. 9, No. 4, 1916, p. 349.

A series of males and females from St. Louis, Missouri, collected by Mr. Phil Rau extend the distribution of this species.

The male runs to *crassicornis* in Mickel's table and has the antennal joints eight to twelve spinate beneath.

¹ Ann. Ent. Soc. Amer., vol. 9, No. 4, 1916, p. 345.

NYSSON (HYPONYSSON) RAUI, new species.

In both Cresson's and Fox's keys this species goes to *bicolor* Cresson, but the sculpture of the prothorax easily separates it from that species.

Female.—Length 4 mm. Clypeus convex, the apical margin depressed, rounded, the apical part of the convex portion polished, the basal part with large and small punctures; front opaque with close, fine punctures; vertex and posterior orbits more sparsely punctured; postocellar line distinctly shorter than the ocellocular line; the interocellar area not tuberculate; antennae short, stout, not extending beyond the tegulae, the second and third joints subequal in length, the third distinctly longer than the fourth; pronotum rounded, opaque, finely punctured; mesoscutum opaque, the punctures somewhat larger than those of the prothorax; scutellum not margined, punctured like the scutum; metanotum flat, propodeal inclosure longitudinally reticulate; angle of propodeum with a feeble, sharp spine; posterior aspect of propodeum granular, margined laterally and with two feeble longitudinal carinae medianly; sides of propodeum granular; legs rather stout, the longer calcarium of the hind tibiae half as long as the basitarsis; hind basitarsis curved near base; abdomen subopaque with fine close punctures; pygidium well defined and rounded apically, fully twice as long as basal width. Black; mandibles piceous; tubercles and small lateral spots on apical margins of first three tergites whitish, first and side of second abdominal segments rufous; body clothed with dense appressed silvery pile. Wings dusky hyaline, venation black. Third intercubitus wanting; nervellus fully three times its length before cubitella.

Type-locality.—St. Louis, Missouri. Described from one female collected by Phil Rau, for whom the species is named, and sent under his number 2479.

Type.—Cat. No. 21406, U.S.N.M.

Although most authors have suppressed Cresson's name *Hyponysson* the finding of this second species would seem to indicate that it can conveniently be used at least as a subgenus.